

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matters of)	
)	
Wireless E911 Location Accuracy Requirements)	PS Docket No. 07-114
)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems)	CC Docket No. 94-102
)	
Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling)	
)	
911 Requirements for IP-Enabled Service Providers)	WC Docket No. 05-196
)	

**JOINT REPLY COMMENTS OF THE TEXAS 9-1-1 ALLIANCE AND THE
TEXAS COMMISSION ON STATE EMERGENCY COMMUNICATIONS**

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TEXAS COMMISSION ON STATE
EMERGENCY COMMUNICATIONS

Table of Contents

	<u>Page</u>
I. <u>Reply Point One:</u> The record supports the benefits of providing PSAPs with at least an MSAG validated address from a Registered Location (e.g., the primary home location, fixed and nomadic service) when a converged wireless and interconnected VoIP provider is serving the consumer via broadband at such primary location for other voice calls. The Commission rules should facilitate the general availability of the Rule 9.5 Registered Location requirements -- and not just the Rule 20.18 mobile requirements -- for a consumer's primary home location being served by the provider via broadband for other voice calls	1
II. <u>Reply Point Two:</u> The record shows the increasing potential for convergence between technologies and services; therefore, the Commission should consider whether calls for two separate technical advisory committees, one for wireless location accuracy and one for interconnected VoIP location accuracy, would lead to potential delays, conflicts, or a failure to address issues related to convergence.....	6
III. Conclusion.....	10

The Texas 9-1-1 Alliance¹ and the Texas Commission on State Emergency Communications² (collectively referred to herein as the “Texas 9-1-1 Agencies”) jointly submit these reply comments to the Federal Communications Commission (“Commission” or “FCC”) Notice of Proposed Rulemaking (“NPRM”) in the above-referenced dockets,³ which seeks comment on the Commission’s Section III.B. tentative conclusions and proposals to improve on 9-1-1 location accuracy.⁴

I.

Reply Point One: The record supports the benefits of providing PSAPs with at least an MSAG validated address from a Registered Location (e.g., the primary home location, fixed and nomadic service) when a converged wireless and interconnected VoIP provider is serving the consumer via broadband at such primary location for other voice calls. The Commission rules should facilitate the general availability of the Rule 9.5 Registered Location requirements -- and not just the Rule 20.18 mobile requirements -- for a consumer’s primary home location being served by the provider via broadband for other voice calls.

¹ The Texas 9-1-1 Alliance is an interlocal cooperation act entity composed of the Texas Health and Safety Code Chapter 772 Emergency Communication Districts with E9-1-1 service public safety responsibility for approximately 50% of the population of Texas. The Texas 9-1-1 Alliance members joining in these comments are: Abilene/Taylor County 9-1-1 District, Austin County Emergency Communications District, Bexar Metro 9-1-1 Network District, Brazos County Emergency Communication District, Calhoun County 9-1-1 Emergency Communication District, Cameron County Emergency Communications District, 9-1-1 Network of East Texas, Denco Area 9-1-1 District, Emergency Communications District of Ector County, Galveston County Emergency Communication District, Greater Harris County 9-1-1 Emergency Network, Henderson County 9-1-1 Communication District, Howard County 9-1-1 Communication District, Kerr Emergency 9-1-1 Network, Lubbock Emergency Communication District, McLennan County 9-1-1 Emergency Assistance District, Midland Emergency Communications District, Montgomery County Emergency Communication District, Potter-Randall County Emergency Communications District, Smith County 9-1-1 Communications District, Tarrant County 9-1-1 District, Texas Eastern 9-1-1 Network, and Wichita-Wilbarger 9-1-1 District. These districts were created pursuant to Texas Health and Safety Code Chapter 772.

² The Texas Commission on State Emergency Communications is a state agency created pursuant to Texas Health and Safety Code Chapter 771, and is the State of Texas’ authority via statute for 9-1-1 emergency communications.

³ FCC 07-108, released June 1, 2007, 72 Fed Reg 33948, June 20, 2007. Herein in these reply comments, when the term “initial comments” is used, it means initial comments that were filed by the referenced party on August 20, 2007 in this second stage of the NPRM.

⁴ In the first part of the NPRM related to Section III.A, the FCC sought comment on its tentative conclusion to adopt the Association of Public-Safety Communications Officials International, Inc. (“APCO”) proposal defining Section 20.18(h) location accuracy testing at an appropriate geographic PSAP responsibility area, and, if so adopted, whether to defer enforcement of Section 20.18(h) as so defined. The Commission addressed this issue at its September 11, 2007, meeting.

The record broadly demonstrates that Master Street Address Guide (“MSAG”) validated addresses are currently preferable to the provision of latitude and longitude from a consumer’s primary home service location and fixed and nomadic situations.⁵ (As noted in the Texas 9-1-1 Agencies initial comments, the validation function may also include a Validation Database [VDB] and an Emergency Services Zone Routing Database [ERDB], and this validation function will evolve further in the future.)⁶ For purposes of providing the most useful 9-1-1 location information, it is critically important, as pointed out by Vonage and TeleCommunications Systems, Inc (“TCS”), for the Commission to clarify in what situations the PSAP and consumer should expect that a nomadic/portable wireless interconnected VoIP service at the consumer’s primary home location provided via wireline or wireless broadband will transmit the address validated “Registered Location” information required by Rule 9.5, as opposed to only transmitting Rule 20.18 CMRS information, even though the consumer is not currently “mobile” and is connected and being provided interconnected VoIP service via a wireline or wireless broadband connection.⁷ Moreover, on the need for further distinction and clarification to

⁵ Initial Comments of APCO at p. 5 (“Specifically, where an interconnected VoIP service connects to a PSAP through an IP/wireline technology, it should provide validated Master Street Address Guide (MSAG) information”); Initial Comments of NENA at pp. 11-12 (“We cannot agree, at this time, with the FCC’s tentative conclusion that, for example, nomadic VOIP service ‘must employ an automatic location technology that meets the same accuracy standards’ applicable to CMRS services. We believe that shoots too low for an IP service that is fixed when in use, and fails to account for NENA’s long-standing request for clarification of the role of the Master Street Address Guide (‘MSAG’) in providing essential definition and uniformity to nomadic caller location”); Texas 9-1-1 Agencies Initial Comments at pp. 5-6 (“[T]here should be two basic Commission minimum 9-1-1 standards: one for wireless/mobile 9-1-1 calls, and another for Internet Protocol (IP) nomadic/wireline 9-1-1 calls. Currently, it is preferable to have a specific, MSAG validated ALI record that identifies a caller’s location when it can be made available.”).

⁶ Initial Comments of the Texas 9-1-1 Agencies at p. 14 (“As far as what current revisions to the Commission’s Interconnected VoIP rules could help improve location accuracy, the Commission should clarify at least two issues: (1) MSAG validation should be a requirement in the Interconnected VoIP rules for IP/wireline type 9-1-1 calls from known locations, and (2) if a state (or the local governments of a state), such as Texas, provides a Validation Database (VDB) and Emergency Services Zone Database (ERDB), then Interconnected VoIP Providers and their agents must utilize the state specified VDB/ERDB for validation and routing.”)

⁷ Initial Comments of Vonage at pp. 7-8 (“It is particularly critical that the Commission recognize the distinction between fixed, nomadic, and mobile interconnected VoIP service. For fixed and nomadic

address the increasingly converged, wireless and interconnected VoIP service offerings,

Intrado explains:

As the use of end devices and associated technologies becomes more indistinguishable as between fixed and mobile environments, there is an increasing and urgent need to determine an approach that provides first responders with the most appropriate information to locate the end-user trying to reach emergency assistance. To that end, Intrado believes that, whenever possible a “dispatchable” street address is the most suitable location information to enable rapid and efficient emergency response. When address can correspond to a location, address information is preferred over geographic coordinates.⁸

The Wireless Communications Association International, Inc. (“WCA”) notes that “to the best of WCA’s knowledge, those wireless broadband service providers who are offering portable or mobile interconnected VoIP are in full compliance with the provisions of Section 9.5 of the Rules, and those introducing service in the coming years are planning to be in compliance with those requirements.”⁹

Notwithstanding the current general recognized benefits of MSAG validated addresses for a consumer’s primary home use location and fixed and nomadic services, some appear to be urging that providing only CMRS quality and location accuracy for 9-1-1 emergency calls should be considered sufficient for interconnected VoIP services:

YMAX will incorporate in its second generation magicJack device, and will license to other providers of nomadic VoIP services, the ability to send a 9-1-1 emergency call out via a cellular transceiver. Whether built into a USB device like the magicJack, or into a laptop, VoIP handset or cordless base unit, ATA or other equipment used to enable VoIP calls, the emergency call can then be routed, and the customer in need of emergency

services, moving to CMRS location requirements would degrade, rather than improve, the accuracy and reliability of emergency call location information”); Initial Comments of Telecommunications System, Inc. (“TCS”) at p. 3 (“To put this whole issue in proper perspective, it is important to distinguish nomadic VoIP from CMRS. Nomadic VoIP is significantly different from CMRS in several distinct ways, the most salient of which relates to the provision of registered address. Because CMRS callers are highly mobile, providing a registered address for CMRS would be extremely difficult”).

⁸ Initial Comments of Intrado at p. 7. The Intrado initial comments go on to propose a detailed evolutionary path and milestones, proposing that in the near term “addresses are based on relatively frequently visited addresses of the caller (‘address of importance’ or ‘frequently visited addresses’) to the caller’s determined location” See, Initial Comments of Intrado at pp. 7-11.

⁹ Initial Comments of WCA at p. 3.

assistance can be located, in the same manner as all other emergency calls made using CMRS phones.¹⁰

The YMAX solution and similar solutions proposing to simply transmit 9-1-1 calls from interconnected VoIP customers in the same manner as CMRS 9-1-1 calls, may be considered a good supplemental approach or even a good primary approach in certain nomadic interconnected VoIP situations, but such solutions do not appear to not be what the Commission intended when it adopted Rule 9.5. Such solutions also ignore that an interconnected VoIP 9-1-1 call with proper Registered Location information may be routed to a different PSAP than a wireless 9-1-1 call from the same location that is routed based on cell site/cell sector or wireless call handling.

The record in this docket contains substantial arguments by service providers on the limitations associated with wireless 9-1-1 location accuracy indoors and for interconnected VoIP service.¹¹ Furthermore, one of the issues in the second stage of this docket is whether to require additional indoor testing. In their initial comments, the Texas 9-1-1 Agencies and APCO proposed that OET No. 71 should be revised to raise the number of test calls from indoors to at least 30%.¹² But if the YMAX type solution is to be considered compliant with Rule 9.5 for interconnected VoIP, then the number of

¹⁰ Initial Comments of YMAX Corporation at p.7.

¹¹ Initial Comments of Verizon at pp.4-5 (“Today’s GPS technologies are unsuitable because it can be difficult to maintain the required satellite communications inside buildings – and VoIP services are likely to be used primarily indoors”); Initial Comments of Sprint Nextel at p. 19 (“while nomadic/mobile VoIP devices could contain a GPS chipset similar to those contained in CMRS handsets, many VoIP communications, such as Vonage, are expected to occur indoor where GPS does not perform well”); Initial Comments of T-Mobile USA at p. 13 (“[F]rom a technical perspective, indoor environments are significantly more challenging than outdoor environments in terms of generating accurate estimates: typically, GPS cannot be used because satellite reception by the handset is insufficient inside buildings, and U-TDOA has limits because an indoor handset is not likely to be received by as many towers”); Initial Comments of the Voice on the Net Coalition at p. 6 (“This problem is further exacerbated due to the fact that interconnected VoIP services are most commonly used indoors where GPS does not work; thus, simply including a GPS chip in interconnected VoIP devices will not provide a viable autolocation solution in most settings”).

¹² Initial Comments of Texas 9-1-1 Agencies at p. 10; Initial Comments of APCO at p. 4.

indoor calls for CMRS testing should be increased beyond the 30% suggested when just CMRS service was contemplated.

Rule 9.5(b)(2) expressly provides that “Interconnected VoIP service providers must transmit all 911 calls ... to the PSAP ... that serves the caller’s Registered Location, and the rule further provides that “‘all 911 calls’ is defined as ‘any voice communication initiated by an interconnected VoIP user dialing 911’.” The Commission should seek to deter generally just using CMRS 9-1-1 solution from a consumer’s primary home service location when broadband interconnected VoIP service is otherwise provided by that provider from that location for other non-9-1-1 voice calls. Moreover, as the Texas 9-1-1 Agencies stated in their initial comments, to the extent that a carrier can work with the PSAP to deliver or make available the latitude and longitude information in addition to the MSAG validated “Registered Location” information, then the carrier should work with the PSAP to do so.¹³ At a minimum, until such time as wireless location accuracy significantly improves or there is truly more accurate auto-location for interconnected VoIP from such locations, the Commission’s rules should facilitate the general availability of Rule 9.5 Registered Location requirements -- and not just the Rule 20.18 mobile requirements – for a consumer’s primary home location being served by the provider via broadband for other voice calls.

¹³ Initial Comments of Texas 9-1-1 Alliance at p. 13.

II.

Reply Point Two: The record shows the increasing potential for convergence between technologies and services; therefore, the Commission should consider whether calls for two separate technical advisory committees, one for wireless location accuracy and one for interconnected VoIP location accuracy, would lead to potential delays, conflicts, or a failure to address issues related to convergence.

The VON Coalition argues that because interconnected VoIP services cover a wide array of configurations and present their own unique technological challenges, the requested technical advisory committee to examine autolocation for interconnected VoIP services should “parallel, but be separate from the technical advisory proposed by Commissioner Adelstein, the National Emergency Number Association, and many others to address accuracy requirements for CMRS.”¹⁴ On the other hand, CTIA appears to argue that “[t]o the extent the Commission embraces the idea of an E911 working group, however, wireless VoIP location services would be best addressed in this forum.”¹⁵ As discussed above in regard to the YMAX proposed interconnected VoIP solution, there is an increasing potential for wireless and interconnected VoIP convergence occurring and interpretations of the Commission’s 9-1-1 requirements is becoming less clear by device and by technology.

Vonage, Nsighttel Wireless, Nokia, and Intrado generally present the various points on this issue as well as competitive and public safety implications for Commission consideration and decision. As part of its four performance criteria for any autolocation interconnected VoIP solution, Vonage urges that “[f]or non-mobile IVS devices located at identifiable addresses, any autolocation solution should be capable of delivering street

¹⁴ Initial Comments of the VON Coalition at p. 22.

¹⁵ Initial Comments of CTIA at p. 9.

address rather than longitude and latitude.”¹⁶ Nsighttel appears to take a functional, competitive application of VoIP service approach. Nsighttel stated:

VOIP was initially deployed in competition with landline services. VOIP enjoyed a significant cost advantage because it did not have to provide E-911 location capabilities. As VOIP is re-invented to become a part of a mobile solution alternative or in conjunction with a mobile solution, VOIP must be required to meet the same E-911 specifications and regulations that other similarly capable telecommunications services provide. This would also provide for the public safety and would provide for a level competitive playing field. If the VOIP application is done as a fixed landline alternative, then landline 911 regulations should then apply. If the VOIP application is intended to be portable, the automatic location technology needs to be incorporated and wireless E-911 regulations should apply. The carrier that is deploying (selling) the application should be the one responsible for deploying the 911 solution. While this type of response is conceptually simple, drafting appropriate regulations will have challenges.¹⁷

In contrast to Nsighttel, Nokia “recommends that the Commission not adopt any location requirement for wireless VoIP products until the industry working group discussed above, after consultation with the relevant industry standards bodies, can make reasoned recommendations on the technology path forward for these systems.”¹⁸ While Nokia’s argument may have temporary merit if and as long as the wireless broadband service is not offered for interconnected VoIP service in a “mobile” fashion separate from normal CMRS services, it must be summarily rejected on public safety grounds if those wireless broadband services can be offered to consumers for interconnected VoIP separate and apart from normal CMRS services.

¹⁶ Initial Comments of Vonage at p. 15.

¹⁷ Initial Comments of Nsighttel at pp. 11-12.

¹⁸ Initial Comments of Nokia at p. 6.

Intrado took a functional public safety approach that was not limited to VoIP but would include wireless and other technologies being used in similar functional ways.

Intrado stated:

In order to maintain a focus on the over-riding goal of fast and accurate emergency response, and to apply the concept of a single location accuracy standard to real world situations, Intrado recommends that the Commission's ruling should consider two predominant uses cases that are based on the 911 caller's environment: 1) Indoor and 2) Outdoor. While there are potentially hundreds of different ways to categorize a user's environment, this straight-forward method of classification, as a regulatory structure, provides the greatest utility for public safety. While both environments will leverage the same location accuracy standard, an Indoor use case will primarily depend upon a "dispatchable" address as the primary data element delivered to a PSAP.¹⁹

Vonage, Nsighttel, Nokia, and Intrado capture the policy and regulatory issues which need to be decided quickly and definitively by the Commission decision. Commission action is needed, because competitors are not waiting for technical advisory group recommendations or further clarity on these issues before moving forward with actual deployments; on the contrary, new deployments of these converged services have begun and it appears they may be accelerating quickly.

Other issues that would benefit from joint consideration, that may or may not differ between wireless, interconnected VoIP, portable, mobile, etc. Intrado and YMAX note for the record that there are considerable recognized issues associated with having consumers continually self-provision their address and that there are long-term issues with this approach.²⁰ Intrado urges the Commission to address the role of the broadband

¹⁹ Initial Comments of Intrado at p. 4.

²⁰ Initial Comments of Intrado at p. 13 ("While the industry has addressed the immediate challenge of the location and routing of a VoIP caller who has 'self-provisioned' their current location with their VoIP Service Provider (VSP) [footnote omitted], the solution is not acceptable in the long term. VoIP callers may not know their current address, may not have a postal valid address, may forget to register after a move, or may enter a false address in order to bypass the registration process."); Initial Comments of YMAX at p. 4 ("While using the best technology available at the time, flaws in this system are apparent. For example, laptop computers with batteries do not have to be shut down to be moved, and with wireless

access provider in the determination of end user locations.²¹ Vonage provides significant detail that broadband network end-point location holds the greatest promise, has been recognized as promising by standards bodies, NENA, and NRIC, and as a practical matter may be required of broadband network providers by CALEA if the Commission defines call-identifying information in the broadband context to include network end-point location information.²²

Beyond CMRS location accuracy, the record supports a current need for the technical advisory committee to consider a comprehensive interstate regulatory approach. Such an approach would fully consider 9-1-1 issues associated with converged, wireless and interconnected VoIP services, wireline and wireless broadband. Additionally, a comprehensive regulatory approach would move beyond interconnected VoIP "Registered Location" to auto-location that actually improves the information provided to PSAPs, and would address IP PBXs with interstate and nomadic capabilities, the roles of the 9-1-1 service providers and local exchange companies, resolving 9-1-1 interconnection issues for different technologies in conjunction with state agencies, and actions needed by service providers and equipment manufacturers for auto-location of 9-1-1 emergency calls in the future.

For all of these reasons, the Commission should thoroughly consider whether the arguments of those that call for two separate advisory committees, one for wireless location accuracy and another for interconnected VoIP location accuracy, should be accepted because the record shows the increasing potential for convergence between

broadband access (e.g., CMRS data or wi-fi or wi-max connections) they may never lose connectivity to trigger a request for location confirmation. Customers may also just click 'not moved' rather than bothering to register their new location. And customers may at times not even accurately know their location (a Holiday Inn on Interstate 80, or a Starbucks in Chicago, rather than a specific street address or geographic coordinates) in order to re-register effectively.")

²¹ Initial Comments of Intrado at p. 14.

²² Initial Comments of Vonage at pp. 17-23.

technologies and complete separation or lack of proper coordination could lead to delays, conflicts, or a failure to address needed issues for resolution related to convergence.

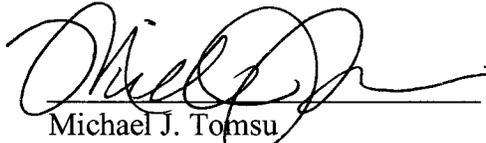
III.

Conclusion

The Texas 9-1-1 Alliance and the Texas Commission on State Emergency Communications appreciate the opportunity to comment on these issues, and respectfully urge Commission action consistent with these reply comments.

Respectfully submitted,

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